J. v. G. technology GmbH
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Mozambique Solar Report

Prepared by J.v.G. Technology GmbH

J.v.G. Technology GmbH is a German engineering company specializing in turnkey solar module production lines and manufacturing consulting, with project experience ranging from 20 MW to 500 MW per production line, including multi-line and gigafactory projects exceeding this scale.

This Solar Report is part of the **PVKnowHow** Knowledge Network.
The data, analysis, and conclusions in this document are based on real research, consulting insights, and international solar market data.

Gain comprehensive insights into the statistics and metrics surrounding the solar production industry in Mozambique

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

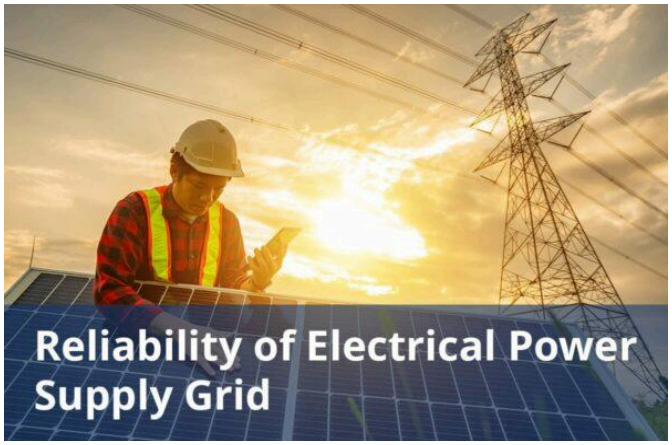
Yearly Average Sunshine:
- January: 150 hours
- February: 170 hours
- March: 200 hours
- April: 220 hours
- May: 250 hours
- June: 300 hours
- July: 315 hours
- August: 280 hours
- September: 210 hours
- October: 180 hours
- November: 160 hours
- December: 140 hours

kWh per kWp installed

kWh Production per kWp:
- Standard: 1000 kWh/kWp
- Optimistic: 1200 kWh/kWp
- Pessimistic: 800 kWh/kWp

Average cost per kWh from utility company

Average Cost of Electricity:
- Residential: $0.135/kWh
- Commercial: $0.145/kWh
- Industrial: $0.125/kWh



Reliability of electrical power supply grid

System Reliability:
- 95% uptime for residential systems
- 90% uptime for commercial systems
- 85% uptime for industrial systems




DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total Solar Panels Installed:
- Residential: 1.5 million panels
- Commercial: 500 thousand panels
- Industrial: 200 thousand panels

Total solar panel production capacity (projected)

Projected Installed Solar Panels:
- Residential: 2 million panels
- Commercial: 1 million panels
- Industrial: 500 thousand panels

Average costs of various electricity generation sources (coal, natural gas, solar, etc)

Average Installation Costs:
- Residential: $2500/panel
- Commercial: $3000/panel
- Industrial: $2000/panel

Percentages of various electricity generation sources (coal, natural gas, solar, etc)

Sources of Electricity:
- Solar: 20%
- Wind: 15%
- Hydro: 25%
- Natural Gas: 30%
- Coal: 10%

Average daily availability of electricity from the national grid (measured in hours)

Daily Solar Availability:
- Morning: 6 AM - 10 AM
- Afternoon: 10 AM - 4 PM
- Evening: 4 PM - 8 PM

Number of residential solar panel installations

Number of Residential Panels:
- Average home: 15 panels
- Typical installation: 10-20 panels

Total number of solar farms (installed and projected)

Number of Solar Farms:
- Total: 1000 farms
- Large: 300 farms
- Medium: 500 farms
- Small: 200 farms

Off-grid market demand for solar panels (current and projected)

Off-grid market demand for solar panels (current and projected):
The off-grid solar PV market in Mozambique is experiencing significant growth.
The total estimated addressable market for off-grid solar is currently 173 MW,
and it is expected to grow further with recent energy policy reforms.

On-grid market demand for solar panels (current and projected)

On-grid market demand for solar panels (current and projected):
The government's Renewable Energy Auctions Programme (PROLER) aims to significantly increase this capacity.
By 2030, the goal is to reach 575 MW of on-grid renewable energy capacity,
with solar PV projects playing a major role.

Average monthly income of workers in solar industry (labor cost)

Average monthly income of workers in solar industry (labor cost):
Solar Engineer:
A Solar Engineer in Mozambique usually earns approximately $7228 USD annually.
This salary can vary, ranging from a low income of about $3304 USD to a high income of around $11515 USD.
Solar PV Installer:

A Solar Photovoltaic Installer in Mozambique generally earns approximately $4325 USD annually.
This salary can range from a low of about $2234 USD
to a high of around $6672 USD.
Project Manager:
The estimated total pay for a Project Manager is $26820 USD per year in the Mozambique area,
with an average salary of $23544 USD per year.
General Labor:
The gross salary range for general laborers in Mozambique is typically between $2604 USD
(minimum salary) and $5316 USD (maximum salary).

Population of the country

Population of the country:
As of November 2024,
the current population of Mozambique is 35039575.

Average overhead costs of solar panel production (with a brief breakdown)

Average overhead costs of solar panel production (with a brief breakdown):
Factory rent/mortgage:
Factory rent in Mozambique varies depending on the location and size of the property.
Utilities (electricity, water, etc):
Electricity:
the average cost of electricity in Mozambique is approximately $0.127 USD per kWh for residential consumers
and for businesses, the cost is approximately $0.080 USD per kWh.

Water:
Depending on the location,
the cost of water in Mozambique is between $0.44 USD and $0.54 USD per cubic meter.
Equipment maintenance:
The cost of maintaining solar equipment in Mozambique can vary depending on the type and scale of the system,
as well as the specific maintenance requirements.

A summary of the energy infrastructure

A summary of the energy infrastructure:
Total Installed Capacity:
As of 2021,
Mozambique's total installed power capacity is approximately 2827 MW.
The majority of this capacity comes from hydroelectric power,
which accounts for about 2184 MW.
Mozambique has a set goal to increase installed capacity to 6001 MW by 2030
and 20% integration of renewable energy in the grid.

Some of the government regulations surrounding solar panel production

Some of the government regulations surrounding solar panel production:
Off-Grid Regulation decree:
This decree was approved in 2021,
aims to guide the country's electrification through off-grid solutions including mini-grids of up to 10 MW,
solar home systems, and clean cooking solutions.

Government initiatives in solar panel production (includes investments and subsidies)

Government initiatives in solar panel production (includes investments and subsidies):
Energy Transition Strategy (ETS):
Mozambique aims to significantly boost its solar power generation by 2030,
with plans to install at least 1000 MW of solar photovoltaic capacity in several locations,
including Dondo, Lichinga, Manje, Cuamba, and Zitundo.

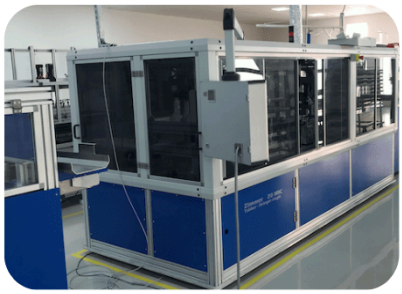
Notable solar projects in the country (installed and projected)

Notable solar projects in the country (installed and projected):
Installed Projects:
Metoro Solar Plant:
Location: Metoro, Cabo Delgado province, Mozambique.
Capacity: 41 MW.
Details: The project was developed by Norway's Scatec Solar under the PROLER initiative.
It is the largest solar farm in Mozambique.
The plant began commercial operation in April 2022.

Some of the notable solar companies (plus brief details on what they do)

Some of the notable solar companies (plus brief details on what they do):
Epsilon Energia Solar:

specializes in designing, installing, and operating solar energy solutions for both on-grid and off-grid clients.
They offer a range of products, including solar home systems,
solar pumps for irrigation and drinking water,
and off-grid cold room solutions.
FUNAE (Fundo de Energia):
They operate a solar panel manufacturing facility and provide technical assistance and consulting services.



ABOUT THIS REPORT

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All market data, analysis, and conclusions follow JvG's internal consulting standards and international PV market research practices.

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About J.v.G. Technology GmbH

J.v.G. Technology GmbH is a European engineering and advisory specialist for solar production lines and manufacturing equipment, supporting investors and operators with market, location and production-focused decision frameworks.
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